

BOTANICAL SOCIETY OF EDINBURGH.

November 9th, 1854.—Professor Balfour, President, in the Chair.

The following papers were read, viz. :—

1. "On the Associations of Colour, and Relations of Colour and Form in Plants," by G. Dickie, M.D., Professor of Natural History, Queen's College, Belfast.

This paper will be found in the present Number of the Annals and in the Society's Transactions.

2. "Record of New Localities for Plants," by Dr. Balfour.

Sinapis nigra. Dysart, Mr. Clay.

Cuscuta Trifolii. Gleghorny, North Berwick, Dr. Balfour.

Anagallis arvensis. Near Luighi House, North Berwick, Miss J. Arnot.

Atriplex laciniata. Near Drem, Mr. D. P. Maclagan.

Orchis pyramidalis. Leven Sands, Mr. G. S. Lawson.

Eriophorum latifolium. Crichton Bog, near Edinburgh, Mr. D. P. Maclagan.

Carex incurva. Near Longniddry, Mr. Clay.

Brachypodium pinnatum. Pathhead, near Edinburgh, Mr. D. P. Maclagan.

Elymus arenarius. Leven and Largo Links, Mr. G. S. Lawson.

Triticum laxum. North Berwick, Dr. Balfour.

Chordaria divaricata. On *Zostera marina* in Belfast Lough, Dr. Dickie.

Woodsia ilvensis. Near Windermere, Westmoreland, Dr. Clowes.

Polystichum Lonchitis. Helvellyn, Dr. Clowes.

Asplenium germanicum. Near Windermere, Mr. Hawker.

Lycopodium annotinum. Near Windermere, Dr. Clowes.

Specimens of many of the above were exhibited.

3. "Remarks on the Formation of Ascidia," by Dr. Balfour. The author stated that he was induced to make some remarks on the formation of ascidia by seeing lately a statement to the effect that all pitchers were formed by a hollowing-out process. He was disposed to think that true ascidia, such as those of *Nepenthes*, *Sarracenia*, *Cephalotus*, and *Heliophora*, were formed by folded leaves in the same way as carpels are supposed to be produced. The anomalous ascidiform production in the leaves of cabbage, lettuce, &c. might be traced to a similar process, and in some instances the pitcher-like body appeared to be a second leaf folded in an opposite manner from that from which it sprung. Occasionally two or more leaves combined to form ascidia. What has been called the "hollowing-out process" is applicable to such cases as *Eschscholtzia*, Myrtle, Rose, *Hovenia*, &c. This process causes a development of the circumference of the receptacle, peduncle, or other part, while the central portion is undeveloped, and thus there arises a cup-like body with a hollow centre. In such instances there seemed to be a union in the early state of the circumferential cellular papillæ, arising from the peduncle or receptacle or other part; these became elongated so as to form a gamophyllous

rim of greater or less depth, enclosing a hollow space in which certain organs are developed. The pitcher-like peduncle or receptacle was often intimately connected with the calyx, and was lined by cellular matter in the form of a disk.

4. "On *Linaria sepium* of Allman," by C. C. Babington, M.A.— See p. 408.

5. "On Diseases in Plants caused by Mites," by Mr. Hardy, of Penmanshiel. A specimen of Broom injured by insects, gathered in the West of Scotland, having been submitted to Mr. Hardy, he sent the following remarks upon it:—"I ascribe the disease in Broom to colonies of young mites inhabiting the interior of the buds. I observed them very distinctly with a triple lens, but the mites being dead, I have not succeeded in detaching one to place under the microscope, but with fresh specimens I have no doubt you would detect them. They are of a pink colour, or paler tinted. In the Berwickshire Club's Proceedings, vol. iii. No. 3. p. 111, I have recorded all the observations I have made on this subject. I have met with three galls on the Broom, caused by the larvæ of *Cecidomyia*, but not, as yet, this mite production. The rent in the bark of the branch appears to be owing to a caterpillar which I often observed in the shoots; a part of its web remains under one of the buds." On other plants injured by mites Mr. Hardy remarked—"I send you specimens of *Helianthemum vulgare*, altered in a singular manner by the larvæ of mites, and precisely similar to the buds of wild thyme and those of broom sent by you lately, except that the stem takes part in the alteration, owing perhaps to some of the mites harbouring in the axils. It is from a dry steep bank at Monynnt, among the Lammermuir. The young mites have the same appearance as those observed in broom, and will probably reach you alive. The buds are often occupied by a gall-fly larva, and the effects are not unlike, but not to this degree. I also send dwarf plants of *Epilobium palustre*, which have the leaves twisted and sometimes rendered involute by larvæ of mites. The buds of *Lotus corniculatus*, and sometimes the leaves, have purple spots occupied by mite larvæ. I can trace no difference in any of them. Specimens are likewise sent of *Geranium molle* from a barren pasture in the Lammermuir; it is completely occupied by mites."

6. "Botanical Notes," by Dr. J. D. Hooker, in a letter to Dr. Balfour. Dr. Hooker remarks (1.) that the natural order *Balanophoraceæ* is truly Dicotyledonous, and far removed from *Rafflesiaceæ*, the latter being (as Brown pointed out) closely allied to *Aristolochia*. The *Balanophoraceæ* are far more perfect in their ovules, and have albuminous seeds, with a Dicotyledonous embryo. They are closely allied to *Gunnera*.—(2.) He finds the germination of *Nymphæaceæ* to be genuinely Dicotyledonous. It is only the adventitious roots which are sheathed, as is the case with many other exogens. The rhizome of the Order is a very reduced form of the exogenous, but not at all constructed on the endogenous type. The species of *Nymphæaceæ* must apparently be reduced to a very few, for in India half-a-dozen varieties in colour, number of petals, stamens and stig-

matic rays, are found in one tank, and no two tanks have exactly the same forms.—(3.) Dr. Hooker considers that Brown's theory of carpellary sutural placentation is the correct one, and that axile and free placentation may be reduced to it. Dr. Hooker mentions a case of *Stachys* with a four-lobed, one-celled ovary formed by two carpels placed back and front, and bearing half-way up a pair of parietal sutural ovules; also a Primrose with parietal ovules. The Yew which Schleiden describes as having an ovule terminating the axis, has been shown to have often two ovules, and when one, it is always oblique and lateral.

7. "On *Stellaria umbrosa*, Opitz," by Mr. G. Lawson. *Stellaria umbrosa*, hitherto only known as a Sussex plant, had been observed by Mr. Lawson on the shore near Rosyth Castle, in Fifeshire. He had not, however, much faith in its claims to specific distinction, and regarded it in the light of a book species, made out of forms of *S. media*; the Scotch *S. umbrosa* appeared to form even a greater departure from the typical *S. media* than the Sussex one. No plant appeared to be more capable of adapting itself to all conditions of soil, climate, and situation, than *Stellaria media*, and to this circumstance was due the numerous forms of the plant known to botanists; the extremes of these forms were remarkably distinct from each other; but when studied in detail, all were found to be intimately linked together.

LINNEAN SOCIETY.

January 7th, 1854.—Robert Brown, Esq., V.P., in the Chair.

Read Extracts from a Letter, addressed by Dr. Edward Vogel to Berthold Seemann, Esq., Ph.D., F.L.S.

Dr. Vogel, as is well known, is attached to the expedition dispatched by Her Majesty's government for the exploration of Central Africa. He quitted London on the 19th of February 1853, reached Tripoli in the beginning of March; and after a stay of several months, caused partly by the delays of his travelling companion, the brother of the Sheikh of Bornou, and partly by his own preparations, he started southwards towards the end of June, and after passing Benouli and Soknu, reached Mourzouk on the 5th of August. On the 15th of October he was to leave that place for Lake Tsad; but previously he addressed, along with his official dispatches, various letters to his friends in Europe, treating of different branches of science; and among these one to Dr. Seemann, dated "Mourzouk, October 8th, 1853," giving some account of the botanical features of the region between Tripoli and Mourzouk, from which the following extracts are taken:—

"There will shortly arrive at the Foreign Office in London a box containing amongst other things a collection of dried plants addressed to Mr. Robert Brown. The following will serve as a commentary on that collection; and you will greatly oblige me by communicating it to that *savant*, and making known those parts which you consider fit for publication. The plants were